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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,673	04/26/2005	Michihiko Takase	2005_0642A	8711
53249 7590 10/05/2010 WENDEROTH, LIND & PONACK L.L.P. 1030 15th Street, N.W. Suite 400 East Washington, DC 20005-1503				
EXAMINER				
BURKHART, ELIZABETH A				
ART UNIT		PAPER NUMBER		
1715				
NOTIFICATION DATE		DELIVERY MODE		
10/05/2010		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ddalecki@wenderoth.com  
coa@wenderoth.com

### Office Action Summary

**Application No.**

10/532,673

**Applicant(s)**

TAKASE ET AL.

**Examiner**

Elizabeth Burkhart

**Art Unit**

1715

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 August 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 21 and 27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21 and 27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/22)
- Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. Claims 21 and 27 are pending in the application. Amended claims 21 and 27 have been noted. The amendment filed 8/6/2010 has been entered and carefully considered.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 21 and 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 21 recites the limitation "the inert gas" in line 17. There is insufficient antecedent basis for this limitation in the claim.

Claim 27 recites the limitations "the first gas" and "the second gas" in line 14. There is insufficient antecedent basis for this limitation in the claim. For purposes of examination, "the first gas" is considered to be "the oxygen gas" and "the second gas" is considered to be "the another gas."

Claim 27 recites the limitation "the inert gas" in line 25. There is insufficient antecedent basis for this limitation in the claim.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 21 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shintani (JP 11-080952) in view of Hidaka et al (JP 10-106441, machine translation submitted 7/28/08), Kim et al, and Okuyama et al (JP 2001-243886, submitted 7/28/08).

Shintani teaches a process for forming an MgO film onto a substrate of an AC type plasma display panel [0002] comprising: controlling a vacuum degree in the deposition room within a certain range, introducing oxygen into the deposition room, and controlling a partial pressure of the oxygen gas introduced to said deposition room within a certain range (Abstract). The oxygen partial pressure is kept within a certain range by controlling an amount of oxygen introduced into the deposition room while the deposition room is exhausted [0004].

Shintani does not teach introducing another gas including at least one gas selected from the group consisting of carbon monoxide and carbon dioxide; the partial pressure of the oxygen gas; the partial pressure of the another gas; or that an inert gas is introduced for controlling degree of vacuum.

Hidaka discloses forming an MgO protective layer for a plasma display panel wherein steam is introduced, in addition to oxygen, to the evaporation chamber at a specific partial pressure in order to enhance the crystal orientation of the MgO film (Abstract). The secondary emission coefficient changes with crystal orientation of an MgO film ([0003] of machine translation).

Kim discloses that the secondary emission coefficient changes for an MgO film with exposure to water vapor or carbon dioxide (p. 5, col. 1).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to introduce water vapor (i.e. steam) as suggested by Hidaka during the process of Shintani in order to enhance the crystal orientation of the MgO film. Further, it would have been obvious to use carbon dioxide as suggested by Kim as an alternative to the water vapor of Hidaka since carbon dioxide changes the secondary emission coefficient of the MgO film similarly to water vapor.

Okuyama teaches a method for forming an MgO film on a plasma display panel (Abstract) wherein a mixed gas containing an inert gas and oxygen may be introduced to the chamber during deposition in order to control membranous quality of the film. Okuyama also teaches that the introduction of oxygen reduces oxygen deficiency [0025] which restrains the amount of dangling bonds (as evidenced by p. 8, line 15 of instant specification).

It would have been obvious to incorporate an inert gas into the process of Shintani as suggested by Okuyama in order to control the membranous quality of the film. Since Shintani teaches controlling the amount of gas (oxygen) introduced, it would have been obvious to one of ordinary skill in the art to control the amount of any gases being introduced, such as inert gas, to maintain the desired degree of vacuum.

Regarding Claim 21, Hidaka discloses an oxygen partial pressure and steam (or carbon dioxide as suggested by Kim) partial pressure within the claimed ranges

(Abstract). Further, one of ordinary skill would have expected similar results using carbon monoxide since it has similar structure and properties to carbon dioxide.

Regarding Claim 27, Shintani teaches an apparatus for depositing an MgO film for manufacturing a plasma display panel, the apparatus comprising: a deposition room, a gas introducing means for introducing oxygen gas (nozzle), an exhausting means (pressure control valve), a partial pressure detecting means for detecting partial pressure of the oxygen gas (mass spectrometer), a vacuum degree detecting means (vacuum meter), and a controlling means for controlling the amount of oxygen gas introduced to said deposition room (mass flow controller) and for controlling the amount of exhausting gas (pressure computing unit) based on information from the partial pressure detecting means and vacuum degree detecting means [0002], [0004]-[0006]. It would have been obvious to one of ordinary skill to incorporate other MFC's into the apparatus of Shintani to accommodate gases other than oxygen, such as those suggested by Hidaka, in order to enhance crystal orientation of the MgO film and to independently detect the partial pressure of each gas since Hidaka teaches maintaining the additional gas (water vapor or carbon dioxide as suggested by Kim) within a specific partial pressure range and the MFC of Shintani is suitable for maintaining a specific partial pressure of gas as shown with oxygen.

Thus, claims 21 and 27 would have been obvious within the meaning of 35 USC 103 over the combined teachings of Shintani, Hidaka, and Kim.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the

unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 21 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 6 of copending Application No. 10/532672 in view of Hidaka et al (JP 10-106441) and Kim et al. The '672 application teaches a method of manufacturing a PDP comprising every limitation of claim 21 except the metal oxide being magnesium oxide and the partial pressures of the oxygen gas and other gas (carbon dioxide, carbon monoxide) being controlled within a certain range. Hidaka discloses forming an MgO protective layer for a plasma display panel wherein steam is introduced, in addition to oxygen, to the evaporation chamber at a specific partial pressure (within the claimed range) in order to enhance the crystal orientation of the MgO film. Hidaka also discloses an oxygen partial pressure within the claimed range (Abstract) and that the secondary emission coefficient changes with crystal orientation of an MgO film ([0003] of machine translation). Kim discloses that the

secondary emission coefficient changes for an MgO film with exposure to water vapor or carbon dioxide (p. 5, col. 1). It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to introduce oxygen and another gas (i.e. steam) at a partial pressure suggested by Hidaka during the process of '672 in order to enhance the crystal orientation of the MgO film. Further, it would have been obvious to use carbon dioxide as suggested by Kim as an alternative to the water vapor of Hidaka since carbon dioxide changes the secondary emission coefficient of the MgO film similarly to water vapor. Further, one of ordinary skill would have expected similar results using carbon monoxide since it has similar structure and properties to carbon dioxide.

This is a provisional obviousness-type double patenting rejection.

#### ***Response to Arguments***

4. Applicant's arguments are directed to the new limitations in the claims which have been addressed in the rejections above.

#### ***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not



mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Burkhart whose telephone number is (571)272-6647. The examiner can normally be reached on M-Th 7-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Elizabeth Burkhart/

Application/Control Number: 10/532,673

Page 9

Art Unit: 1715

Examiner, Art Unit 1715

/Timothy H Meeks/

Supervisory Patent Examiner, Art Unit 1715